U.S. Department
of Transportation
**Federal Aviation
Administration**

Office of the Regional Administrator
Southern Region

1701 Columbia Avenue
College Park, GA 30337

June 4, 2021

Haley Gentry
Aviation Director
Charlotte Douglas International Airport
P.O. Box 19066
Charlotte, NC 28219

Dear Ms. ~~Gentry~~ Haley,

On July 9, 2020, the Charlotte Airport Community Roundtable (ACR), through the Charlotte/Douglas International Airport (CLT), formally submitting a slate of six recommendations for the Federal Aviation Administration (FAA) to consider implementing to reduce the effects of aircraft noise resulting from recurring arriving and departing overflights in the vicinity of CLT.

On July 24, 2020, the FAA met internally to begin discussing a strategy to analyze these recommendations and to establish a core team for conducting the analysis. FAA discussions have included both technical and operational factors as well as other projects and activities on the horizon at CLT. During the initial internal discussion, the core team determined the focus of the initial analysis would be to review recommendations that would affect approaches and arrivals initially, which are recommendations 1, 2 and 3. The reason for postponing the review of recommendations that would affect departures is the core team's belief that the anticipated Part 150 study will provide an appropriate framework for consideration and possible implementation of the ACR's departure recommendations 4, 5 and 6.

In subsequent meetings through July and August 2020, the core team finalized a strategy for conducting the analysis and determined that facility air traffic control representatives needed to be involved in core team discussions early in the review process to ensure their inputs were included in the analysis. From September 2020 through March 2021, the core team met with internal and external stakeholders, including industry representatives, to gather and review inputs and consider the specific operational complexity and traffic volume at CLT. The core team documented findings related to recommendations 1 through 3. The results of these collaborative meetings are further detailed below, and are referenced by recommendation.

Recommendation 1: Greater Use of Continuous Descent Approaches

Our preliminary analysis of the use of Continuous Descent Approaches (CDA) at CLT indicates that the use of CDAs is not feasible at CLT for the following reasons: 1) CDAs would not be an

effective tool for maintaining safety and efficiency at the airport due to the complexity of the operation and the lack of a sequencing and spacing mechanism, such as Terminal Sequencing and Spacing (TSAS), which is not planned for CLT at this time; 2) CDAs would increase track miles due to aircraft being placed in a holding stack until being sequenced to final; and 3) the FAA would not implement CDAs prior to conducting an operations model and safety assessment to determine the effect of its use on the operation and industry at locations with triple runways, during heavy traffic volumes, and with mixed CDA and non-CDA traffic. This type of model is not planned at this time and has not been conducted previously for any similar environment, world-wide.

Background:

- A CDA is a European concept and a basic pilot maneuver that does not require avionics, whereby the pilot manually enters vertical speed into the flight control unit to give the pilot a near idle descent from the Top of Descent (TOD) to the runway. A CDA is initiated at the interception of the final approach course and after the termination of an Optimized Profile Descent (OPD) Standard Terminal Arrival Route (STAR). CLT designed and implemented OPDs, but the procedures terminate at specified points, rather than joining an approach procedure, in order to accommodate the nature of the traffic mix at the airport. When traffic conditions permit, the OPD procedures are used to the maximum extent possible for CLT arrivals.

- CDAs have been minimally implemented world-wide, including only one major airport with parallel runways, London-Heathrow Airport (LHR). Our research indicates that CDAs are used when traffic volume is low and where there is an effective timing mechanism for sequencing arriving aircraft to the airport, such as TSAS, to precondition the flow of traffic and allow the use of Area Navigation (RNAV) from TOD to the runway. At locations where CDAs are used, CDA operations have been known to decrease airport efficiency and throughput during peak traffic times, because of the associated need for extended holding and increased track miles, while carrying more power, in order for aircraft to hold its altitude and airspeed in a level turn, until being sequenced to final approach. Increased track miles caused by aircraft in holding and longer segment lengths increase emissions; increase noise over communities currently affected by air traffic; and, potentially introduce noise over communities not currently affected by air traffic. Specifically at CLT, the core team believes CDAs would have a significant negative impact on airport efficiency due to the associated reduction of runway configurations that would be available for use, such as eliminating use of one of the runways to accommodate timed approaches. This would not be feasible, particularly at a location like CLT, where a fourth runway is currently being evaluated in order to accommodate the increased volume of traffic and projected growth at the airport.

Recommendation 2: Maintain 6,000' Arrival Minimum Altitude until Final Approach Course

Due to the volume of aircraft arriving at triple parallel runways, and an often lengthy approach course (occurs regularly), Air Traffic Control (ATC) needs a full range of level altitudes between 4,000 and 9,000 feet (ft) to sequence aircraft to final. Using 4,000 ft and above ensures aircraft

remain in the Class B airspace. Using 9,000 ft and below is needed to de-conflict approaches from departures; to protect adjacent airspace. This also provides the number of level altitudes needed to safely and efficiently sequence aircraft to three final segments. Eliminating the use of 4,000 and 5,000 ft for sequencing to final would be a significant operational change resulting in increased holding and/or increased track miles. This is not feasible at CLT without significant negative impact to the air traffic operation, industry operations, and the community. Specifically, the recommended change would cause delays, resulting in reduced airport arrival rates. The increased track miles would likely increase noise over areas currently impacted by air traffic, while potentially introducing noise over new areas not currently impacted by air traffic.

Background:

- ATC assigns different altitudes to all aircraft from the STARs to the final approach depending on the direction from which aircraft arrive. Aircraft are assigned 4,000 ft for east arrivals; 5,000 ft and 6,000 ft for west arrivals; and, 8,000 ft and 9,000 ft for center runways, for both north and south flows. This current operation is the safest and most efficient configuration to ensure no reduction in service and no increase in track miles. American Airlines (AAL) supports minimizing application of power during decent and approach, as long as it can be done safely. As mentioned above, OPD procedures provide this benefit over the largest swath of airspace and provide the biggest reductions of emissions. As aircraft near the airport, especially one like CLT with multiple simultaneous runways in use, it becomes difficult for ATC to efficiently combine and sequence aircraft of different sizes and performance capabilities that are arriving from different directions without adjusting the flight path or speed of arriving aircraft. For safety purposes, AAL requires all flights to be stable i.e., at calculated approach speed, on proper glide path, and configured for landing at least 1,000 ft above the airport elevation. Requiring all aircraft to intercept the glide path to the runway at 6,000 ft would result in aircraft flying longer downwind legs to intercept the final approach course up to 6.4 nautical miles (NM) farther from the airport, causing increased emissions; increased pilot and controller workloads; and, increased aircraft noise over affected areas.

Recommendation 3 (R3): Return CAATT Waypoint to Pre-Metroplex Location

As shared previously, moving the CAATT waypoint to its pre-Metroplex location is not feasible due to the increased track miles that would result and the potential for increased noise over parts of the community where traffic is not currently expected. Amending procedures to mitigate noise typically results in moving noise from one area to another. However, after collaboration with the appropriate stakeholders and considering the most prudent design for the airspace, ATC determined that higher altitudes over the waypoints would be feasible and might deliver one of the stated goals of the ACR to keep aircraft arrivals higher.

Background:

- Returning CAATT waypoint to its pre-Metroplex location would mean relocating the fix or deleting the fix and creating a new fix 2.73 NM south of its current position, along the east downwind for landing Runway 36, to the position formerly occupied by the waypoint PELOY and preserving the previous crossing altitude of 9,000 ft. This proposed track and waypoint move would increase the need for additional track miles to allow

aircraft to descend at a standard rate to the final approach course. The waypoint EPAYE, which is the waypoint that currently succeeds CAATT, would need to be moved farther south to accommodate the standard rate of descent from CAATT to EPAYE to final. If the crossing altitude at EPAYE were increased, without relocation, additional track miles would be needed beyond EPAYE for aircraft to descend and configure to the final approach course.

- ATC cannot implement the recommendation to relocate CAATT as written; however, ATC can accommodate an increase of 1,000 ft at both CAATT and EPAYE, as currently published, which would keep aircraft at a higher altitude for a longer period of time while on the downwind, and specifically over the area where PELOY was formerly established. An increase in the crossing altitude at CAATT from 9,000 ft to 10,000 ft would place an aircraft at approximately 9,300 ft over the fix formerly published at PELOY (300 ft higher in altitude than its pre-Metroplex altitude), at a standard descent rate of 250 feet per NM. In order to accomplish this, the changes would need to comply with current procedures design criteria and ATC would need to create continuity of traffic for all four downwind flows, by increasing the crossing altitudes for the STAR termination fixes of JONZE, FLIPZ, PARQR, and STOCR arrivals. On JONZE, FLIPZ, and PARQR STARs, the crossing altitudes at the fixes preceding the STAR termination fixes would also be increased by 1,000 ft to accommodate the optimum descent rate of 250 feet per NM.

In conclusion, due to the results of our analyses for recommendations 1 and 2, the FAA cannot support consideration of these proposals as candidates in the effort to reduce aircraft noise at CLT. We look forward to hearing whether the alternative accommodation proposed for recommendation 3 is acceptable to the ACR. With ACR and airport concurrence, the FAA can begin to evaluate the timeline for implementation based on the expected environmental evaluation needed for the action, the community outreach needed, the prioritization among other competing ongoing and planned work in the National Airspace System, internal procedure design and production processes, and ATC training.

We appreciate the efforts of the Charlotte ACR to seek improvements to the aviation noise footprint in Charlotte airspace, and trust that this feedback helps explain some of the issues and complexities associated with some of the ACR recommendations.

Sincerely,

Michael C. O'Harra

Michael C. O'Harra
Regional Administrator, Southern Region